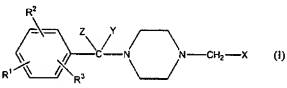
WHAT IS CLAIMED IS:

1. A method for treatment of a mammal threatened or afflicted by Alzheimer's disease, by administering to said mammal an effective amount of a compound of formula I:



(I)

wherein:

a) R^1, R^2 and R^3 are individually H, OH, halo, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, $(C_3\text{-}C_6)$cycloalkyl, $(C_3\text{-}C_6)$cycloalkyl$((C_1\text{-}C_6)$alkyl), $(C_2\text{-}C_6)$alkenyl, $(C_2\text{-}C_6)$alkynyl, $(C_1\text{-}C_6)$alkanoyl, halo$(C_1\text{-}C_6)$alkyl, hydroxy$(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxycarbonyl, $(C_1\text{-}C_6)$alkylthio, thio$(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkanoyloxy, $N(R^6)(N^7)$ wherein R^6 and R^7 are individually H, O, $(C_1\text{-}C_6)$ alkyl, $(C_3\text{-}C_6)$cycloalkyl, $(C_3\text{-}C_6)$cycloalkyl$(C_1\text{-}C_6)$alkyl, phenyl or benzyl, or R^6 and R^7, together with the N to which they are attached form a 5- or 6-membered ring, optionally comprising 1-2 S, $N(R^6)$ or nonperoxide O, or R^1 and R^2 together are methylenedioxy;

b) Y and Z together are =O, $-O(CH_2)_mO-$ or $-(CH_2)_m-$ wherein m is 2-4, or Y is H and Z is OR^9 or SR^9, wherein R^9 is H or $(C_1\text{-}C_4)$alkyl;

c) X is $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, hydroxyl$(C_1\text{-}C_6)$alkyl $(C_3\text{-}C_{12})$alkenyl, $(C_2\text{-}C_6)$alkynyl, carboxy, $(C_1\text{-}C_6)$alkoxycarbonyl, thio$(C_1\text{-}C_6)$ alkyl, $(C_3\text{-}C_{12})$heterocyclo, $(C_3\text{-}C_{12})$ heterocycloalkyl$(C_1\text{-}C_6)$ alkyl, aryl or heteroaryl, optionally substituted by 1, 2 or 3 R^1;

and the pharmaceutically acceptable salts thereof.

2. The method of claim 1 wherein the amount is effective to inhibit $A\beta$ peptide-induced neurotoxicity.

3. The method of claims 1 or 2 wherein the amount is effective to inhibit $A\beta_{1\text{-}42}$ neurotoxicity.

4. The method of claims 1-3 wherein the amount is effective to inhibit glutamate-induced neurotoxicity in said mammal.

5. The method of claims 1-4 wherein the amount is effective to maintain ATP levels in neuronal cells in said mammal.

6. The method of claim 5 wherein the cells are contacted *in vitro*.

7. The method of claim 5 wherein the cells are contacted *in vivo*.

8. The method of claims 1-5 or 7 wherein the compound of formula I is administered to a human.

9. The method of claim 8 wherein the human is in an early stage of AD.

10. The method of claim 8 wherein the human is an AD patient.

11. The method of claims 1-10 wherein R^1, R^2 or R^3 is $N(R^6)(R^7)$.

12. The method of claims 1-11 wherein R^2 is $(C_1–C_6)$alkoxy.

13. The method of claims 1-12 wherein R^3 is $(C_1–C_6)$alkoxy.

14. The method of claims 1-10 or 12-13 wherein each of R^1, R^2 and R^3 is $(C_1$-$C_3)$alkoxy.

15. The method of claims 1-14 wherein Y and Z together are =O.

16. The method of claims 1-14 wherein Y is H and Z is OH.

17. The method of claims 1-16 wherein X is $(C_1–C_6)$alkyl.

18. Method of claims 1-17 wherein X is CH_3.

19. The method of claims 1-5 and 7-18 wherein the compound of formula I is administered orally.

20. The method of claims 1-5 and 7-18 wherein the compound of formula I is administered parenterally.

21. The method of claims 1-20 wherein the compound of formula (I) is administered in combination with a pharmaceutically acceptable carrier.

22. The method of claim 21 wherein the carrier is a liquid, suspension or gel.

23. The method of claim 21 wherein the carrier is a solid.

24. The method of claims 1-23 wherein the compound of formula I is [(2,3,4-trimethoxy)phenyl]-[4-ethylpiperazin-1-yl] methanone.

25. A composition comprising a compound of formula (I) in combination with a pharmaceutically-acceptable carrier.

26. A therapeutic method to treat a neuropathy that involves a glutamate network or pathway hyperactivity comprising administering to a mammal threatened with, or afflicted by, said neuropathy, an effective amount of a compound of formula (I).

27. Use of a compound of formula (I) to prepare a medicament to treat at least one AD symptom.